

Claims

1. A composition comprising a multispecific ligand comprising at least a first ligand binding moiety which specifically binds to a first ligand having a first biodistribution and a
5 second ligand binding moiety which specifically binds to a second ligand having a second biodistribution different from that of the first ligand, and wherein the affinity of the first and second ligand binding moieties are different and selected to bias the biodistribution of the multispecific ligand, and wherein the multispecific ligand is a bispecific antibody, and wherein the first ligand is present on a first target cell population
10 and wherein said second ligand is present on a second target cell population comprising the first target cell population, and wherein the affinity of said first ligand binding moiety for the first ligand is higher than the affinity of the second ligand binding moiety for the second ligand whereby the biodistribution of the multispecific ligand is biased in favour of the first ligand, and wherein the first and second ligands have
15 overlapping biodistributions, and wherein the first and second ligands are both present on and bioavailable for contemporaneous recognition by the first and second ligand binding moieties on the first target cell population, and wherein the multispecific ligand is adapted to bind contemporaneously to first and second ligands, and wherein said first ligand is a cell surface marker, including an antigen, CD marker or particular
20 epitope, associated with one or more specific cell populations, diseased cells, or disease-associated cells, including cells associated with cancer, susceptibility to viral infection and autoimmune disorders and wherein said second ligand is a CXCR4 receptor and wherein the affinity of the first ligand binding moiety for the first ligand:

- a) is pre-selected to serve a targeting function, being at least sufficient for
25 the first target moiety to bind to the first target ligand independently of the second target binding moiety binding to the second target ligand; and
- b) is pre-selected to have an ability to bind to the first target ligand for a duration which at least provides opportunity for the second target moiety to bind the second target ligand when the first target binding moiety is
30 bound to first target ligand;

wherein the affinity of the second ligand binding moiety for the second ligand:

- a) is pre-selected to have a diminished ability to bind and/or stay bound to the second target ligand independently of the binding of the first target binding moiety to the first target ligand; and
- 35 b) is at least approximately one order of magnitude lower than the affinity of the first ligand binding moiety for the first ligand.

2. The composition according to claim 1, further comprising a physiologically acceptable excipient.

5 3 – 9 (cancelled)

10. (Withdrawn) The composition according to claim 7, wherein said marker is a CD marker.

10 11. (Withdrawn) The composition according to claim 10, wherein said marker is CD4.

12. The composition according to claim 7, wherein said marker is specifically associated with a cancer cell or pre-cancerous cell.

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13. (cancelled)

14. The composition according to claim 7, wherein said marker is associated with an immune cell that is susceptible to viral infection.

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15. (Withdrawn) The composition according to claim 7, wherein said marker is specifically associated with an autoimmune disorder of rheumatic disease.

25 16. (Withdrawn) The composition according to claim 7, wherein said marker is associated with a specific tissue type.

17. (Withdrawn) The composition according to claim 7, wherein said marker is associated with a specific organ.

30 18. (Withdrawn) The composition according to claim 7, wherein said marker is associated with a cell of tissue of specific origin or class.

19. (Withdrawn) The composition according to claim 7, wherein said marker is an MHC-peptide complex.

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20. (Withdrawn) The composition according to claim 7, wherein said marker is a cell surface immunoglobulin.